Co-located Dental Hygienist Project:
Baseline Early Childhood Caries Prevalence Rates and Parent Oral Health Knowledge, Attitudes, Beliefs and Behaviors

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Financial Disclosures

- The authors do not have any significant financial interest or relationship with either the manufacturer of any commercial products or services or any commercial supporters of any activity.
Background: Early Childhood Caries

- Most common chronic disease of children
- 18% of Colorado’s Head Start children have caries experience
- Large disparity exists
  - 80% of disease occurs in 25% of children
- AAP and AAPD recommend first oral health visit by 12 months of age
- Innovative models of care delivery necessary

Colorado Head Start Basic Screening Survey, 2004
The Impact of Oral Disease on the Health of Coloradans, CDPHE, 2005
Background: Co-location

- General Considerations
  - Placing multiple services in same physical space
  - Premise that proximity will enhance access to necessary services
  - Continuum of care
    - co-location > collaboration > integration

Background: Co-location

• Dental + Medical
  – Place dental services where children frequently receive preventive medical care
• Registered dental hygienists can practice independently in Colorado
Goal

- Overarching goal of project is to test **feasibility of co-locating** registered dental hygienists into medical practices.
Objectives

- **Objective 1**: Using co-located dental hygienists in medical practices, measure baseline early childhood caries prevalence in young children, 0-36 months of age

- **Objective 2**: Describe the baseline oral health knowledge, attitudes, beliefs and behaviors of primary parents/caregivers of young children
Methods: Study Setting

- Five medical offices purposefully selected
- All offices serve predominantly low income children
- Registered Dental Hygienists (RDH) hired from 10/08 through 4/09
- Dual function exam rooms built
- RDH care specifically directed to children 0-36 months of age
Methods

• Recruitment Efforts
  – Letters mailed to parents at practices
  – Open recruitment by hygienists in offices
  – Direct referral of patients by medical staff

• Services
  – Oral examination, rubber tip prophy, assessment of caries, fluoride varnish application and oral health instruction
  – All children referred to dentist

• Business Model
  – RDH practice independently
  – Do own scheduling and billing
Measurement of Cavities

• Decayed, missing, filled surfaces \((d_1d_2mfs)\)
  • RDHs calibrated to caries measurement
  • NIDCR and DRURY criteria (white spot lesions)
  • Visualized on dried teeth, overhead light source, no probing or x-rays

USDHHS, PHS, NIH, NIDR. NIH Publication No. 91 (1991)
Measurement of Parent/Caregiver Variables

- Parent/Caregiver knowledge, attitudes, beliefs, behaviors
  - Hand written paper-based survey
  - Health Belief Model
  - Validated questions (e.g. BRFSS)
  - Piloted
  - Administered at first visit
Results

Patients seen to date (Total = 1330)
Nov. 2008 to March 2010

Target children <36 months (N=525)
Non-target children >36 months (N=805)
Baseline Characteristics of Study Population

Target Participant Characteristics

<table>
<thead>
<tr>
<th></th>
<th>N=525</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (mean)</strong></td>
<td>18 months</td>
</tr>
<tr>
<td>Range</td>
<td>(6-36)</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>67%</td>
</tr>
<tr>
<td>CHP+</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Household Income</strong></td>
<td></td>
</tr>
<tr>
<td>&lt;= $29,999</td>
<td>55%</td>
</tr>
<tr>
<td><strong>Caries</strong></td>
<td></td>
</tr>
<tr>
<td>$d_1$s only</td>
<td>9.6%</td>
</tr>
<tr>
<td>$d_2$mfs</td>
<td>3.7%</td>
</tr>
</tbody>
</table>
### Target Participant Characteristics

*N*= 525

<table>
<thead>
<tr>
<th>Question</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Has your child ever been received care by a dental provider?’</td>
<td>9%</td>
</tr>
<tr>
<td>‘Do you have a dental provider you plan on taking your child to?’</td>
<td>27%</td>
</tr>
<tr>
<td>‘Have you (parent) seen a dental provider in the past 2 years?’</td>
<td>51%</td>
</tr>
</tbody>
</table>
## Parent Attitudes about Co-location

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Somewhat Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient to get dental care in the same office as child’s medical provider</td>
<td>84%</td>
<td>15%</td>
</tr>
<tr>
<td>More likely to take my child to a dental provider located in doctor’s office than one in the community</td>
<td>63%</td>
<td>29%</td>
</tr>
<tr>
<td>Getting dental care at the same time as getting medical care makes sense</td>
<td>78%</td>
<td>17%</td>
</tr>
</tbody>
</table>
## Perceived Barriers to Taking Children to Dental Provider

<table>
<thead>
<tr>
<th></th>
<th>A Big Problem</th>
<th>Somewhat a Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>14%</td>
<td>25%</td>
</tr>
<tr>
<td>Finding a dentist that takes child’s insurance</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Finding a dentist close to my house</td>
<td>10%</td>
<td>14%</td>
</tr>
<tr>
<td>Child afraid of the dentist</td>
<td>9%</td>
<td>19%</td>
</tr>
<tr>
<td>Too busy to take child to dentist</td>
<td>5%</td>
<td>14%</td>
</tr>
</tbody>
</table>
### Parent Knowledge Regarding Provision of Dental Care

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes (%)</th>
<th>By age 1 (%)</th>
<th>By age 1 and before age 3 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Has <a href="mailto:medical.provider@example.com">medical provider</a> told you when to take child to see dental provider</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Has <a href="mailto:dental.provider@example.com">dental provider</a> told you to take child to see dental provider</strong></td>
<td>26%</td>
<td>65%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>...did <a href="mailto:medical.provider@example.com">medical provider</a> tell you to take child to dental provider (n=210)</strong></td>
<td></td>
<td>62%</td>
<td>31%</td>
</tr>
<tr>
<td><strong>...did <a href="mailto:dental.provider@example.com">dental provider</a> tell you to take child to dental provider (n=137)</strong></td>
<td></td>
<td>51%</td>
<td>42%</td>
</tr>
<tr>
<td><strong>...do you think you should take child to dental provider (n=525)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other Important Attitudes and Behaviors

- 47% brush child’s teeth once a day
- 22% use toothpaste when brushing child’s teeth
- 47% agree child won’t let them brush teeth
- 44% agree that most children eventually get cavities
Other Important Attitudes and Behaviors

- 47% of children currently use a bottle
- 23% reported putting child to bed with a bottle (milk, formula, juice) daily
- However, 87% described taking child to dental provider as “very important” to preventing cavities
Challenges and Limitations

• Challenges to Co-location
  – Medical practices lack space for new providers
  – Getting medical providers to refer patients slow
  – Incorporating dental hygienists into scheduling of clinics difficult

• Limitations
  – RDH assessing for caries
  – Generalizability
  – Selection Bias
Conclusions

• Co-located dental hygienists seeing both targeted and non-targeted children

• Young children are receiving preventive oral health services

• Few targeted children previously seen by dental provider and already are developing white spot lesions and cavities

• Reported barriers are less common/haven’t been encountered yet
Conclusions

• Most parents think child should see dental provider by age 3

• Most parents report that dental visits prevent cavities

• Co-locating dental hygienists into medical practices is feasible — more detailed investigation needed
Acknowledgements

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Mary Vigil
Suzi Shada
Conclusions

- Co-located dental hygienists seeing both targeted and non-targeted children
- Few targeted children previously seen by dental provider and already are developing white spot lesions and cavities
- Parents support receiving dental care in the medical office
- Reported barriers are less common
- Parents think child should see dental provider by age 3
- Parents report that dental visits prevent cavities
- Co-locating dental hygienists into medical practices is feasible — more detailed investigation needed